BENCHMARKS

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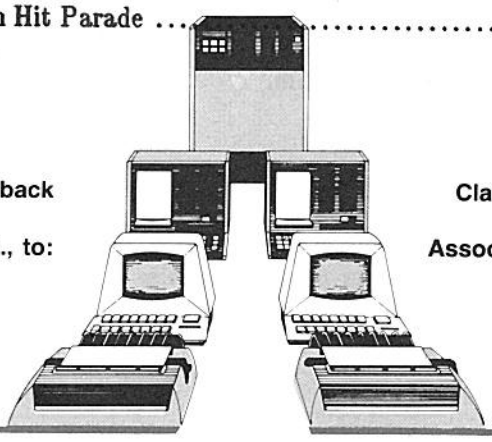

BENCHMARKS Reader/User feedback is encouraged.
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SERVICES AVAILABLE TO USERS OF THE NTSU COMPUTING FACILITIES

The NTSU Computing Center is located in the Information Sciences Building(ISB), Room 119. **Phone Numbers:** Computing Center:(817) 565-2324; Help Desk: 565-4050; Graphics Lab: 565-3479

Benchmarks Questions/Contributions, Etc.–Claudia Lynch

Information & ID-Codes; Disk Space Problems–Carolyn Goodman

Statistical/Research Support–George Morrow, Scott Barber, Claudia Lynch, Tim King, Panu Sittiwong

Academic ADABAS/COM-PLETE; CRSP & COMPUSTAT Problems–Telka Clem

Student Programming Problems–CSCI Dept., GAB Room 542A; BCIS Dept., BA Room 152

JCL Problems; Password&Operating System Problems; Communication/Terminal Problems–Help Desk

Data Entry; Test Scoring & Analysis–Betty Grise

Administrative Applications–Coy Hoggard

Printout Retrieval–RJE Operators

DIALING UP NTSU COMPUTERS OVER THE TELEPHONE

Phone numbers for the Local Area Network (LAN) are:

300/1200 BAUD: (817) 565-3300; 3499

300 BAUD: D/FW METRO 429-6006

1200 BAUD: D/FW METRO 429-9314

The numbers that will accept either 300 or 1200 baud communications have an autobaud feature that requires you to hit the ⟨RETURN⟩ key repeatedly so that the receiving modem can determine the appropriate baud rate. When you have established a communications link, the # prompt will appear on your screen and you can enter one of following CALL commands to connect with the computer of your choice.

CALL 8040 connects with the NAS/8083 (does not support full screen editing)

CALL 3270 connects with the NAS/8083 through a 3270 protocol converter (supports full screen editing).

CALL DEC connects with the VAXcluster

CALL 780 connects with the Research VAX

CALL 2000 connects with the HP-2000

NTSU CABLE SYSTEM SCHEDULE

The current configuration of the NTSU cable system is as follows:

Channel 7–NT Daily. Broadcasts from the NTSU Journalism Department.

Channel 8–TAGER. Broadcasts go to and from NTSU to other links in this microwave network.

Channel 10–NTSU Computer System Status Monitor (SSM). Displays the current status of the NAS, VAX and HP computer systems supported by the Computing Center.

Channel 12–Sammons Cable. Carries Cable News Network (CNN) unless a special program is requested.

Special broadcasts to and from classrooms can be arranged by the Media Library (565-2484).

HOURS FOR NTSU COMPUTER ACCESS AREAS: FALL 1986*

Days	Times	Location
Sunday	2–10 p.m.	ISB 110 Terminal Area
	Noon–Midnight	Computing Center RJE
	2–11 p.m.	GAB 550C
Saturday, Sunday	Noon–11:45 p.m.	College of Business
	Noon–5 p.m.	Graphics Lab
Monday	7:00 a.m.–Midnight	Computing Center RJE
Tuesday–Saturday	7:00 a.m.–Open 24 hrs/day	Computing Center RJE
Monday–Thursday	7:30 a.m.–Midnight	ISB 110 Terminal Area
	8:15 a.m.–11:45 p.m.	College of Business
	8 a.m.–Midnight	GAB 550C
	8 a.m.–10 p.m.	Graphics Lab
Friday	7:30 a.m.–6 p.m.	ISB 110 Terminal Area
	8:15 a.m.–7:45 p.m.	College of Business
	8 a.m.–8 p.m.	GAB 550C
	8 a.m.–6 p.m.	Graphics Lab
Saturday	9 a.m.–6 p.m.	ISB 110 Terminal Area
	CLOSE Midnight	Computing Center RJE
	10 a.m.–8 p.m.	GAB 550C

* Hours may vary. Check MUSIC/VAX News and/or posted schedules for exceptions.

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NEW POLICIES, PROCEDURES, AND OTHER IMPORTANT STUFF

The Changing Face of *Benchmarks*

By Claudia Lynch, *Benchmarks* Editor (AS04@NTSMUSIC)

Loyal readers of *Benchmarks* may have noticed a difference in the appearance of the September/October issue as compared to those of previous months.Believe it or not, this was no accident. The NTSU Computing Center has now entered into the hottest new area of personal computing – desktop publishing! We are currently using a product called MicroTEX. It is a full microcomputer implementation of the technical text processing system developed by Donald E. Knuth at the Stanford University Computer Science Department, and it is particularly useful for typesetting documents containing a lot of mathematical equations. One major drawback of the version that is currently being used is that it is totally **command** driven. To be truly "state-of-the-art,"a desktop publishing product should let you see your output in a WYSIWYG (What You See Is What You Get) manner.

Needless to say, this is only the beginning of our search for the perfect desktop publishing product. Stay tuned for more interesting developments as the search continues. You will have the unique opportunity to observe, firsthand, the transformation of this newsletter as products are tried, rejected (or maybe, kept), and the Editor gains expertise in this new endeavor.

Computing Hours Over the Semester Break

The following hours will be in effect over the semester break:

Days	Times	Location
Saturday, Dec. 20	9 a.m.–5 p.m.	ISB 110 Terminal Area
	8 a.m.–Midnight	Computing Center RJE
	Noon–5 p.m.	Graphics Lab
Sunday, Dec. 21	Noon–Midnight	Computing Center RJE
	CLOSED–Midnight	ISB 110 Terminal Area
	Noon–5 p.m.	Graphics Lab
Monday, Dec. 22	8 a.m.–Midnight	Computing Center RJE
	CLOSED	ISB 110 Terminal Area
	9 a.m.–5 p.m.	Graphics Lab
Tuesday, Dec. 23	8 a.m.–Midnight	Computing Center RJE
	CLOSED	ISB 110 Terminal Area
	9 a.m.–5 p.m.	Graphics Lab
Friday, Dec. 26	8 a.m.–5 p.m.	Computing Center RJE
	CLOSED	ISB 110 Terminal Area
	9 a.m.–5 p.m.	Graphics Lab
Saturday, Dec. 27	8 a.m.–5 p.m.	Computing Center RJE
	CLOSED	ISB 110 Terminal Area
	Noon–5 p.m.	Graphics Lab
Monday, Tuesday, Dec. 29,30	8 a.m.–5 p.m.	Computing Center RJE
	1–5 p.m.	ISB 110 Terminal Area
	9 a.m.–5 p.m.	Graphics Lab

Wednesday, Dec. 31	8 a.m.–5 p.m.	Computing Center RJE
	CLOSED	ISB 110 Terminal Area
	9 a.m.–5 p.m.	Graphics Lab
Friday, Jan. 2	8 a.m.–5 p.m.	Computing Center RJE
	1–5 p.m.	ISB 110 Terminal Area
	9 a.m.–5 p.m.	Graphics Lab
Saturday, Jan. 3;10;17	8 a.m.–5 p.m.	Computing Center RJE
	CLOSED	ISB 110 Terminal Area
	Noon–5 p.m.	Graphics Lab
Monday–Friday, Jan. 5–9;12–16	8 a.m.–Midnight	Computing Center RJE
	8 a.m.–5 p.m.	ISB 110 Terminal Area
	9 a.m.–5 p.m.	Graphics Lab
Sunday, Jan. 11;18	Noon–Midnight	Computing Center RJE
	CLOSED	ISB 110 Terminal Area
Noon–5 p.m.	Graphics Lab	

NOTE: All access areas will be closed December 24, 25 & 28 and January 1 & 4. The College of Business and GAB Terminal areas will close at 5 p.m., December 19 and remain closed until 9 a.m. January 19.

Computing Center Spring Short Courses

The Computing Center is offering the following short courses for the Spring semester. Please pre-register to attend. Only 20 people will be admitted per section. Courses marked with an * require knowledge of the MUSIC Context Editor. THE COMPUTING CENTER RESERVES THE RIGHT TO CANCEL COURSES WITH LESS THAN 5 PEOPLE SIGNED UP.

1. Six separate 2-hour introductory sessions on the MUSIC/SP interactive operating system, using the 3270 Protocol Converter to do FULL-SCREEN EDITING ON MUSIC/SP. To be held in Room 110 of the Science Library (ISB).

Monday, February 2	: 1–3 p.m.	Instructor: Panu Sittiwong
Tuesday, February 3	: 6–8 p.m.	Instructor: Scott Barber
Saturday, February 7	: 9–11 a.m.	Instructor: Tim King
Wednesday, March 25	: 6–8 p.m.	Instructor: Scott Barber
Thursday, March 26	: 1–3 p.m.	Instructor: Panu Sittiwong
Saturday, March 28	: 9–11 a.m.	Instructor: Tim King

2. Two separate two-hour sessions on system Files in SAS and SPSS-X. To be held in the Graphics Lab (ISB).

Wednesday, February 4	: 3–5 p.m.	Instructor: Scott Barber
Monday, March 23	: 9–11 a.m.	Instructor: Scott Barber

3. Two separate three-hour sessions on VAX Utilities & Commands. To be held in Room 110 of the Science Library (ISB).

Tuesday, February 3	: 9 a.m.– Noon	Instructor: Ron Brashear
Monday, March 23	: 6–9 p.m.	Instructor: Ron Brashear

4. Two separate two-hour introductory session on SAS.* To be held in Room 110 of the Science Library (ISB).

Wednesday, February 4	: 2–4 p.m.	Instructor: Panu Sittiwong
Monday, March 23	: 1–3 p.m.	Instructor: Tim King

5. Two separate two-hour sessions on using MUSIC/SP Utilities.* To be held in Room 110 of the Science Library (ISB).

Thursday, February 5	: 3–5 p.m.	Instructor: Janice Green

Saturday, March 28 : 1–3 p.m. Instructor: Janice Green

6. Two separate two-hour introductory session on SPSS-X.* To be held in Room 110 of the Science Library (ISB).

Tuesday, February 3 : 1–3 p.m. Instructor: Panu Sittiwong
Wednesday, March 25 : 9–11 a.m. Instructor: Tim King

7. Two separate two-hour introductory sessions on IBM JCL.* To be held in the Graphics Lab (ISB).

Thursday, February 5 : 3–5 p.m. Instructor: George Morrow

8. Two separate two-hour introductory sessions on CMS (for use with SAS/GRAPH). To be held in Room 110 of the Science Library (ISB). LIMITED TO FACULTY AND GRADUATE STUDENTS – MUST HAVE A CMS ID-CODE.

Friday, February 6 : 1–3 p.m. Instructor: Mansur Hasib
Friday, March 27 : 1–3 p.m. Instructor: Mansur Hasib

9. Two separate two-hour introductory sessions on using SAS/GRAPH. To be held in the Graphics Lab (ISB). [Must be familiar with CMS to attend – see #8 above].

Monday, February 9 : 1–3 p.m. Instructor: Mansur Hasib
Monday, March 30 : 1–3 p.m. Instructor: Mansur Hasib

Computing Center Open House

Each semester the Computing Center hosts an open house to give users an opportunity to tour the Computing Center facilities. Tours for the Spring semester will be offered on January 28 & 29 (Wednesday and Thursday) from 9 a.m. until 7 p.m.. Reservations must be made through the Computing Center prior to the tours. Phone 565–2324 to make reservations. Tours will not be offered at any other time during the semester.

MUSIC Coordinator Moves to Technical Support Group

Janice Green, who was the MUSIC Coordinator for Academic Computing Services since the summer of 1984, has followed in the footsteps of her predecessor, Steve Glick, and is now working with the Technical Support Group. She has assumed the position of VM and MUSIC support person that Steve vacated when he went to work at SMU last March.

Although Janice is no longer officially with Academic Computing Services, she has promised to continue to help out whenever she is needed until a new MUSIC Coordinator is hired. The search for her replacement has already started,and we hope to have another MUSIC Coordinator in place early in 1987.

Waterloo BASIC Now Available on MUSIC

Waterloo BASIC is a highly interactive, structured programming, BASIC language compiler that was developed at the University of Waterloo in Canada. It was added to MUSIC to replace the subset BASIC that has been the interactive BASIC language compiler up until now.

Some features of Waterloo BASIC include:

- immediate syntax checking and error diagnostics when entering source programs using the BASIC editor.
- immediate mode execution of BASIC language statements
- fully dynamic file access to MUSIC save library files during program execution.
- sequential, relative-record, or keyed file access methods.
- a dynamic debug facility whereby program execution can be interrupted, the state of the program can be inspected and changed, and execution can then be resumed.
- control structures facilitating structured programming in the BASIC language.
- a LOG function allowing a complete record of each terminal session to be saved in a file.
- extensive formatting capabilities permitting data to be input or output in a wide variety of formats.
- use of variable names of any desired length.
- a number of useful built-in functions for numeric calculations, character manipulation, error handling and matrix manipulation.

- matrix declarations up to 255 dimensions.
- statements to control the sorting of files.
- "command" files used to execute a sequence of BASIC commands.
- an extensive HELP facility built into the compiler.

To use Waterloo BASIC on MUSIC, simply type **WBASIC** while in *GO mode. This starts the Waterloo BASIC editor and puts you in "ready" mode so that commands or programs can be entered, modified, run or saved. Waterloo BASIC has its own built-in HELP facility which will give you a description of all WBASIC commands, statements, and built-in functions. Entering **WBASIC HELP** with no operands will return a description of how to use the HELP facility. An index for each area of documentation is provided. A primer and reference manual entitled *Waterloo BASIC: A Structured Programming Approach* by J. W. Graham, J.W. Welch, and K. I. McPhee will be available for purchase in the University Store in the near future. Until then, a copy is available in the Computing Center for consultation.

SAS PROC FORMS Problem Solved

There has been a problem getting mailing labels to print correctly with PROC FORMS since the installation of the current version of SAS (5.16). The folks at SAS Institute, Inc. are aware of the problem and are working on a fix for it, however until they come up with one it will be necessary to change some parameters in the options area of the PROC FORMS statement. It is now necessary to use the "CC" option if you are using the "DDNAME=" option and you should also use "DOWN=1". This will cause the line-up routine to space properly so that your labels will be printed correctly.

SPSS-PC+ Site License Acquired

By Scott Barber, Academic Computing Staff (AC10@NTSMUSIC)

Truly full-featured statistics has arrived for microcomputers at NTSU. While we recently acquired a site license for the PC version of SAS-PC, we now also have one for SPSS-PC+.

In addition to the Basic module, we are also allowed to distribute up to 2000 copies of the Advanced Statistics, Tables, Graphics, and Translate modules. For the most part, this provides a microcomputer version of the mainframe product that is quite remarkable.

The Basic module has procedures for data definition and manipulation, data file transfer with several PC file structures and SPSS-X system files, crosstabs, multiple regression, ANOVA, and simple plots, graphs, and reports.

The Advanced Statistics module contains procedures for MANOVA, factor analysis, cluster analysis, discriminant analysis, and log-linear modeling.

The Tables module contains sophisticated routines for producing customized, presentation-quality tables and reports. These include the ability to deal with multiple dichotomy and multiple response variables in one table.

The Graphics module is basically an interface to MicroSoft Chart. If you do not have MS-Chart, the Graphics module will be of no use to you.

If you have seen SPSS-PC, but not SPSS-PC+, you should be pleasantly surprised by the improvements to this package. Among other things, there is a REVIEW facility which allows you to run jobs interactively, easily edit and run more procedures without having to retype commands.

You must have an IBM or compatible PC with a hard disk. With ALL of the modules installed, SPSS-PC+ requires about 6.2 megabytes of disk space. Of course, as procedures are executed, log and listing files can begin to require sufficient space in addition. Fortunately, an SPSS-PC+ MANAGER (which is also included) allows you to install and uninstall by module, so your disk need not be taken up by procedures you never use.

If you use a University-owned PC, or are a full-time employee of NTSU, you may obtain SPSS-PC+ by calling me at the Computing Center (2324). If you are interested in SAS-PC (also offered to the same eligible people), please contact Tim King at the same telephone number.

PHOENIX/Micro Software Available to Qualified Users

Thanks to the generosity of Dr. William A. Luker, Dean of the School of Community Services, the Computer Based Training (CBT) authoring and presentation system called PHOENIX that is available on the ACADemic* part of the NAS mainframe computer, is now available in a microcomputer version. Anyone who wishes to do CBT for University-related work and has an IBM PC or equivalent can come by the Computing Center and get a free copy of PHOENIX/Micro. There are plans to purchase 4 courses from Goal Systems International, the makers of PHOENIX, which will teach you how to write and administer PHOENIX courseware. We hope to have these courses available for general use early in the Spring Semester. This is an exciting step for NTSU into the world of CBT. If you are interested in getting more information about this product, please contact Claudia Lynch at 565–2324.

**ACAD is the official designation of the part of the NAS/8083 CPU that is dedicated to faculty and student use. The portion of the computer reserved for University administrative purposes is termed ADMN.*

TCOM News

By Mansur Hasib, TCOM Academic Computing Coordinator (AC36@NTSMUSIC)

Computer Literacy

A series of meetings have been held to discuss computer literacy at TCOM. A proposal defining computer literacy and suggesting how such a literacy program could be implemented has been developed. Another proposal outlining the specifications of a Computer Literacy Laboratory to be housed in the new Med. Ed. III facility has also been developed. These proposals were discussed in the Computer Council meeting held on October 31st.

TCOM ⇒ NTSU Communications

Three 1200 baud lines connecting TCOM to the NTSU mainframes were made operational on October 31st. The phone number for these lines is 429–9314. The eight 300 baud lines previously serving this purpose are still active and can be accessed by dialing 429–6006. All lines were moved from the 5th floor to the 8th floor of Med. Ed. I.

PC Training

A computer seminar on DOS was held on October 16 and was attended by about 50 members of the TCOM community. WordPerfect classes are being held regularly for groups of at least six people in the Learning Resources Center of the TCOM library. These classes are scheduled as needed and are not announced to the general public. Please contact TCOM Computer Services (735–2597) if you think you would like to attend a WordPerfect class.

PC Day

IBM held a PC Day on the 30th of October. Several products including a lap-top were on display, however the new IBM PC/XT with the 80286 chip was not.

HP-2000 to Change Locations

The HP-2000 minicomputer will be moved from its current location in the ISB to the Physics Building on January 5, 1987. The Physics Department will take over the responsibility of operating the HP from that time on. This move should be transparent to users of the HP-2000, who will continue to access it in the same manner as they have in the past.

Staff Activities

"Microcomputer Workstations for Evaluation Research," an article by Bob Brookshire, Academic Computing Services Manager, has been published in *Evaluation Review*. Dr. Brookshire's article appears in the October 1986 issue.

Chandrabhan (C.R.) Chevli, Communications Analyst, attended the Sytek Network Users Group (SNUG) meeting in Denver, Colorado October 6-10. While he was there, C.R. presented a paper entitled "Network Management and Management Tools for the Sytek Broadband Local Area Network 'LocalNet 20 '."

Departmental Swap & Sell

If you want to swap or sell a departmental TI/PC or other type of microcomputer you should contact the Computing Center (565–2324). We frequently get calls from departments looking for used PCs and we will be glad to put you in contact with any interested parties.

MICROCOMPUTERS

Error in Sidekick Calculator on AT-Class Computers
By Bob Brookshire, Academic Computer Services Manager (AS03@NTSMUSIC)

An article in *INFOWORLD* December 8 announced an error in the calculator component of the Sidekick program, which appears on IBM PC AT computers and compatibles using Intel 80286 processor. According to the article, by Hank Bannister, the Sidekick calculator works accurately on IBM PC, XT and compatible systems which use the Intel 8088 and 8086 processors. With computers based on the 80286 processor, however, errors can appear in calculations. The problem will be found in both current and past versions of Sidekick.

To find out if Sidekick running on your computer is affected by the problem, try dividing 93,500 by 31,167. The correct rounded answer is 3.0, but Sidekick running on AT-class machines will produce the answer 2.4.

Borland International, Inc., makers of Sidekick, have provided a fix for the problem. The fix involves replacing two bytes in the file SK.COM. The MS-DOS program DEBUG can be used to replace these two bytes as follows:

Unload the Sidekick program from memory if it is resident using the ⟨CTRL⟩⟨HOME⟩ ⟨CTRL⟩⟨END⟩ sequence. Copy the file SK.COM to the directory containing the MS-DOS program DEBUG.COM. Then type the following commands:

You Type	This Appears
debug SK.COM⟨ENTER⟩	–
R⟨ENTER⟩	(A table will be displayed. Record the value following the CX, i.e. CX-nnnn.)
S100 nnnn 3C 63 76 02 FE C8⟨ENTER⟩ (where nnnn is the value from CX in the previous step)	aaaa:zzzz
Ezzzz⟨ENTER⟩ (where zzzz is from the previous step)	aaaa:zzzz 3C
⟨SPACE⟩4 times	FE.
B0⟨SPACE⟩	C8.
63⟨ENTER⟩	–
W⟨ENTER⟩	writing nnnn bytes
Q⟨ENTER⟩	MS-DOS prompt

Load the new version of Sidekick using the SK command, and try the division test shown above. If it gives the answer 3.0, copy the new SK.COM back to the original directory, replacing the old SK.COM.

Post Training Trauma

By Sandy Franklin, Office Automation Specialist

A recent article in *Data Training* entitled "The First Day Back – How to Prevent Post-Training Trauma" had several good points worth mentioning.

The most important point was, once training is over, you've got to get back and start using the new computer skills at your desk right away. Any newly acquired skill will be diminished if it isn't practiced.

The fear and uncertainty of using a computer is common not only to secretaries and clerical people but to middle management and business owners as well. The problems can be as simple as forgetting how to enter the date or as frustrating as wiping out a day's work because you didn't tell the computer to save it.

Because computer use is a complex new skill, students must realize that they'll need time to transfer classroom exercises into actual operations. Newly trained employees need time to reorganize their work before expecting results. Employers expectations that employees will be proficient with their new computer skills immediately following training can lead to unnecessary pressure.

Don't rush into big, time-sensitive projects immediately following training. Choose a less critical, "non-realtime" task to automate first. When using spreadsheet packages, check computer results against old manual methods at first so you can be assured that you are getting the same answers faster on the computer.

Use your classroom guidebooks for reference material and sample exercises to fall back on. When questions arise, write down the questions, try looking in the reference section of the guidebook or manuals for the answer, and if needed, call the Computing Center for help. If possible, have the problem on the screen when the call is placed.

We now recognize the increases in productivity a PC can provide if the operator is making full use of the computer's capabilities. So jump in and try it – and call if you need some help.

WordStar and Mailmerge Tips and Tricks

Taken from a file sent out to new WordStar users. Copyright 1986, MicroPro International Corporation

Listed below are helpful procedures to make the use of WordStar and Mailmerge easier and more convenient. We have divided the information into TIPS (simple, useful procedures for daily operation) and TRICKS (more advanced procedures for trouble shooting and special operations). We hope you find both categories helpful.

* W O R D S T A R * T I P S *

Reinstalling WordStar

When you reinstall WordStar, you are asked for the name of the file to install. Give the name of your working copy (usually WS.COM) rather than the default (WSU.COM). Doing this will preserve your previous modifications while incorporating your new changes.

Installing WordStar For Two Printers

You can install WordStar for more than one printer by giving a different name to the WordStar program file (WS.COM) for each printer you install.

Let's suppose that you have an Epson MX-80 printer and a Diablo 630 printer. You would follow this procedure:

To install WordStar for the Epson printer, run WINSTALL. When asked what file to install from, press (RETURN) to choose WSU.COM. When prompted for the name of the installed WordStar file, type **WSEPSON** and press (RETURN). Continue with the installation and select the Epson printer from the list of printers. Save your installation and exit.

To install WordStar for the Diablo printer, run WINSTALL again. When asked what file to install from, press (RETURN) to choose WSU.COM. When asked for the name of the installed WordStar file, type **WSDIABLO** and press (RETURN). Continue with the installation and select the Diablo printer from the list of printers. Save your changes and exit.

Each time you install, you create a new .COM (program) file. CorrectStar will also have to be reinstalled each time you create a new .COM file. If you are using WordStar 3.30 you may also need to reinstall MailMerge.

When you want to print a file with your Epson printer, use the version of WordStar installed for the Epson by typing **WSEPSON** at the system prompt (instead of typing WS). To start the version installed for the Diablo, type **WSDIABLO**. Editing can be done with either version. You don't need to make any additional copies of WordStar's files to use either version.

Using MailMerge to Print Multiple Copies of a WordStar File

If you have MailMerge, you can print multiple copies of a file even if it doesn't contain any MailMerge commands.

When you want to print your file, press (M) (instead of (P)) at the WordStar Opening Menu and type the name of your file. One of the prompts will ask how many copies you want to print.

Printing WordStar Files Quickly

When you print a file in WordStar you are asked a series of questions. To avoid answering all of them, press (ESCAPE) after typing the file name. WordStar will accept all of the default answers to the questions (for example, start printing on page one, end printing after the last page, etc.).

Decimal Tabs

To set decimal tabs past column 99 in WordStar, use the **Escape for Cursor Column** method of setting a tab instead of entering a value. Move the cursor to the column where you want the decimal tab stop. Press ^ **OI**, type # at the prompt, and press (ESCAPE).

Printing Columns and Tables

If the columns in your WordStar document look aligned onscreen but print slightly jagged, WordStar is trying to microspace justify one or more of your lines.

To fix this problem, place your cursor in the first column of the line just above your columnar text. Turn microspace justification off with the dot command **.UJ 0**. Turn microspace justification on with **.UJ 1** below the last line of columnar text.

Reminder: dot commands must always start in column one.

Creating Newspaper Style Columns

You can create multi-column (newspaper style) text. First adjust the right margin to the width you want the columns to be. Type the text in one long column. Then reset the right margin to accommodate multiple columns. Leave enough room for the columns and the space between them. Change to column mode (^ **KN**), mark sections of the single column with ^ **KB** and ^ **KK**, and move the columns into position with ^ **KV**.

Disk Space

If you get a "disk full" message while attempting to scroll through your document or when attempting to save your file, do not turn off your computer or, in frustration, press (Ctrl)(Alt)(Del). Instead, follow these steps to recover your document.

First, press ^ **KF** (this displays the file directory from inside your working document.) If any unessential files appear in the directory (such as .BAK files), use ^ **KJ** to delete them. Hopefully, you can save your document at this point.

If more room is needed, block mark the whole document (or a large part of it) and save it to a disk in another drive. Use ^ **KB** and ^ **KK** to mark the beginning and end of the block. Press ^ **KW** to write the marked block to another disk drive and filename. You can then abandon the working file (^ **KQ**). Use the copy option on the WordStar Opening Menu to copy the new file onto a work disk that has plenty of room.

Setting Place Markers

If you want to set a place marker in your document, type ^ K followed by a number (0-9). When you want to return to that place marker, type ^ Q and the number. These place markers are not preserved when you exit the file.

Double Spaced Text

You can double space text onscreen and at print time. If you want double-spaced documents at print time only, type **.LH 16** at the top of your document. The onscreen page breaks will change when the document is printed. You may need to make some adjustments.

To see double spacing on screen, press ^ OS and change line spacing to 2. Turn hyphen-help off, and re-form the text you want to see double spaced. You can use ^ Q^ Q^ B if all the text in your document has the same margins and it contains no indents. The document will now display and print with double spacing.

Tip: Use the second method to double space printed text if your printer doesn't recognize the .LH command.

Overprint Characters

Use the overprint character command (^ PH) for accent marks or special characters, for example Sen^ PH~ or to print Señor.

Paragraph Indentation

Use ^ OG to indent an entire paragraph one tab stop to the right. This is useful for bulletted lists. You can press ^ OG more than once to indent a paragraph several tab stops. Use ^ B to reform the indented paragraph.

Note: The following WordStar Tricks are for advanced users only.

* W O R D S T A R * T R I C K S *

Testing Your Printer Connection

The following procedures will help you determine whether any printer problems you have are caused by a hardware or cabling problem:

Turn your computer and printer on and make sure that the printer is on line. You will be using the DEBUG program. If you run into problems during the procedure below, reboot your computer and call the premium service number.

Verify that DEBUG.COM is on your DOS disk (or in the directory where your DOS files are located). This example assumes that DEBUG.COM is in the root directory on drive C. Type the capitalized text below, exactly as it appears. ("^ P"means press the Control key and the P key at the same time.) The "–"is the DEBUG prompt.

C> **DEBUG** (Press (RETURN))
– ^ **PD100 250** (Press (RETURN))
– **Q** (Press (RETURN))
C> ^ P (Note: ^ P doesn't display onscreen.)

By pressing ^ P, you turned on an "echoing"toggle. This means that everything you type is immediately printed out on your printer.

When you type the command "D100 250,"that exact phrase should be printed. A screen of characters will then display. These should also be printed out exactly as they appear onscreen.

By typing "Q"you quit the DEBUG program. Typing ^ P again turned off the echoing feature.

If the characters printed correctly, your computer and printer are communicating properly. The printer problem you are having is probably related to your WordStar installation.

If different characters appeared (or if nothing printed at all), you have a hardware problem. Contact a computer technician for assistance.

Super and Subscripts

If you have chosen the "Standard" printer driver from the WordStar printer installation menu, you may find that ^ PT and ^ PV cause subsequent characters to be super- or sub-scripted a whole line above and below the text.

Depending on the specifications of your printer, it may be possible to patch WordStar to do half-line super- and sub-scripts. First, determine if your printer has the ability to generate a half-line feed. If it does, determine what printer codes are necessary to do so.

Run winstall. From winstall's Main Installation Menu, choose Custom Printer Installation. From the Custom Printer Installation Menu, choose the "Return/Linefeed" option and type the hex string **0D 0A 0A**. For Carriage Return/Half Line Feed, type **0D 0A**.

The printer initialization string must also be modified. This is another option on the Custom Printer Installation Menu. Add your printer's codes to the end of the existing initialization string to initialize the printer in 12 lines per inch (half-line feed mode). Change the printer de-initialization string to reset the printer into full line feed mode.

This solution does not work for all printers. Please refer to the installation section of the WordStar manual for more information.

Variable CPI (Characters Per Inch)

Variable CPI makes it possible for some printers to produce italics, compressed type, and expanded type. If your printer is on the "Menu of Printers" in the installation program, you may already have variable CPI capability. For further information, read the onscreen text after selecting your printer.

To install any dot matrix printer for variable CPI, install your printer as "Standard non-backspacing." Then go to the Customized Printer Installation Menu of Winstall. Choose "User-Defined Functions." There are four user-defined functions. Each allows up to four hex, decimal, or ASCII codes. Type in the necessary code sequences for variable characters per inch, which you'll find in your printer manual. Then save your changes and exit from Winstall.

To use variable CPI, give the corresponding command in your document where you want the change to take effect. To use User- defined function 1, press ^ PQ. To use User-defined function 2, press ^ PW. To use User-defined function 3, press ^ PE. To use User-defined function 4, press ^ PR.

Please refer to the installation section of the WordStar Manual for more information.

Sending WordStar Documents Over a Modem

WordStar files created in Non-Document mode (N on the Opening Menu) are straight ASCII text files and can be sent via a modem with no modification.

WordStar files created in Document mode (D from the Opening Menu) contain the high-order bit set to accommodate special print enhancements, microspace justification, word wrap, hyphen-help, etc. These document files can be garbled when sent via a modem. You'll need to strip the high-order bits from your document mode WordStar file to send it over a modem. *Contact the Computing Center if you want to do this.*

MAILMERGE TIPS

Solving Printing Problems with MailMerge Files

All MailMerge documents must end with an empty line (one with no spaces) or a page break. If blank spaces are found at the end of the file, the first dot command will be printed at the top of the second document, and all subsequent ones. To solve this problem, edit your MailMerge master file. Press ^ QC to go to the end of the file. Then press ^ Y to erase the trailing spaces. Save the document and print the MailMerged file again.

An empty field at the end of every record will cause MailMerge to skip every other record during merge-printing. To prevent this from happening, always check the last field for each record in the data file. A record with an empty final field has a comma as its last character.

MAILMERGE TRICKS

Aligning Columns of Variable Data in a MailMerged Document

To align two or more columns of variable data in a MailMerge file use the ^ P (RETURN) (Overprint Next Line) command. Type the first variable name (& variable1&) and press ^ P (RETURN). A "–"will be displayed in the flag column. The cursor will move to column 1 of the next line. Use the Tab key or ^ I to move the cursor where you want the second column of data. Type the second variable name.

Repeat this process for each variable. When you have typed the last variable name, press (RETURN) (**not** ^ P (RETURN)). Your file will look like this:

& variable1&
& variable2& –
& variable3& –
<

To right justify data at print time, each field must be the same length (the same number of spaces). To do this, you will need to edit your data file and insert leading spaces for fields you want to justify.

Open your existing data file using non-document mode (N at the Opening Menu). Move your cursor to the beginning of the field you want to right justify and type a quotation mark. Then type spaces to pad the field to a fixed length. After the variable data for that field, end the field by typing another quotation mark. To create columns with the data, use the "^ P (RETURN)" method described above.

In the example below, the second field has a fixed length of 5 characters.

Bob," 100",
Mary," 11",
Mary11," 1000",

PC DOS Filer for IBM and TIPCs: A Review

By Scott Barber, Academic Computing Services Staff (AC10@NTSMUSIC)

With the amount and quality of public-domain and "shareware" software available these days for IBM-type and TI Professional Computers, individuals, offices and departments can save much money on good products. This article will examine one good example of useful software, well worth the nominal "contribution" to the authors.

PC-DOS Filer version 3.2 is a disk-management utility which displays two separate sub-directories on the screen simultaneously, and allows various file manipulation operations without having to type extended file names for each operation.

When you run Filer (FFM.ARC or FFM32.ARC is the filename on the BBSs), you are presented with two screens. The left screen contains the contents of the default DOS directory, and the right is an information screen, with the version number, a solicitation for a voluntary contribution, and the author's address.

In order to find out the various display commands, press the (F2) key, and these commands will be shown on the right side of the screen. With practice, you can soon display any two sub-directories on your hard or floppy disks quickly. You can display these files sorted by name, extension, date, or size. You choose whether you want each directory on the right or the left. The only limitation is that you cannot display the same directory on both sides at once.

The vertical arrow keys and the (PgUp) and (PgDn) keys scroll you through the list of files, and the horizontal arrow keys toggle you back and forth between the two displayed subdirectories. The cursor always rests next to a file name, which becomes the "active file."

You can also "mark" (highlight) files for copying, deleting, or backing up. The (F9) key marks and unmarks files for the next file management operation.

By marking 10 files in the sub-directory and then pressing (C), you can copy all 10 of these files to another directory (or floppy disk) at once. It is this ability to mark numerous files for immediate processing that makes this and other programs of its kind so valuable.

The file management commands are listed at the bottom of the screen. These are:

Clear_marks Copy Delete Backup Rename Execute Show Quit

You will see that the Clear_marks command is highlighted. You can execute these commands in either of two ways. The first is to use the (TAB) key and then (RETURN) when the command you want is highlighted. Otherwise, you can simply press the first letter of the command. You will be prompted if you want to perform the operation on the "active" file or the "marked" files. In addition to the following abilities, it also keeps track of how many bytes are used on the *subdirectory* being displayed, how many are free, and also the number of bytes in marked files. This is extremely handy when making copies of files onto diskettes for backup or other purposes, or even if you are just curious about how many bytes are being used in a hard disk subdirectory.

After using this freely available software for just a little while, I wondered how I had gotten along without it. It is available on many of the better bulletin boards around, and you may also obtain a copy in the Computing Center.

NOTE: FFM runs on the TIPC under EMULATE. Get into the DOS sub-directory and enter EMULATE before attempting to run Filer. You are also advised, if running on a hard disk, to set a PATH to the sub-directory where FFM resides. This way, you can run FFM regardless of the present default sub-directory.

Microcomputer Tax Deductions: The Law Has Changed

By Dr. Patricia Elliot, CPA, Anderson Schools of Management, University of New Mexico

Reprinted from Public Pages, the newsletter of the Emory University Computer Center (Oct-Nov 86 issue).

The overwhelmingly negative reaction to the "adequate contemporaneous record" requirements of the Tax Reform/Deficit Reduction Act of 1984 has resulted in yet another change in the law regarding the deduction of a microcomputer on one's tax return. The President signed into law a repeal of the "adequate contemporaneous record" requirement and the Internal Revenue Service has issued new regulations regarding the substantiation requirements. The new (1985) law in no way changes the requirements for deductibility and the limits on deductibility; it only changes the substantiation requirements.

Rules for Deductibility and Limits on Deductions

A brief review of the rules and limits on deductions for a microcomputer follows. Employees are the least likely class of persons able to take a deduction for their personal computers. The cost of employee-owned PCs may be deducted only if the computer is used exclusively on the employer's premises or if the computer is a required condition of employment. For all taxpayers, the computer must be used more than fifty percent of the time for business. Tax records, investments, rental properties, and continuing education do not count as business use for this test. If business use is fifty percent or less, investment tax credit, favorable Accelerated Cost Recovery depreciation, and the immediate expense provisions cannot be used. The taxpayer's deduction is limited to straight-line depreciation over twelve years on the business portion of the computer's cost.

For example, if a computer costing $6,000 was used forty percent in a sole proprietorship, fifty percent for investment and tax record keeping, and ten percent for personal use, the business-use test is not met. The taxpayer is limited to ninety percent of $6,000 divided by twelve years, or $450 of depreciation a year. Note that the fifty percent investment use counts in calculating this deduction, but not in the fifty-percent use test.

Under old rules (that is, pre-June 18, 1984) with the same assumptions above, the taxpayer either could use the immediate expense provisions for the maximum $5,000, take $40 of ITC [Investment Tax Credit], and take an ACR depreciation of $57 in the first year, or he or she could take ITC of $540 and depreciate $5,130 ($5,400, less half the ITC) over five years as follows: $769.50 in year one, $1,128.60 in year two, and $1,077.30 in each of the next three years. Assuming a sixteen percent discount rate, the new tax rules decrease the present value of the tax benefits on a $6,000 computer by as much as $946, given a twenty-eight percent marginal tax rate or $1286, given a forty-eight percent marginal tax rate. As the price of the computer decreases, the present value of the tax savings under the old law diminishes. For example, if the computer's price is $4,000, the new rules will increase taxes by a maximum of only $860.

The final trap is the recapture provisions. If the business usage exceeds fifty percent in the first year and the favorable immediate expense, the tax credit, and depreciation are used, and usage drops below fifty percent for any future year, the benefits will have to be repaid. In such a case, all of the ITC must be repaid in the year the drop occurred, and all of the depreciation in excess of the straight-line amount has to be added

back to taxable income. This is true even if usage exceeds fifty percent in all years following the one year when it dipped below fifty percent.

Note that these rules apply to all taxpayers. Even if the computer is used in a sole proprietorship or in a consulting business, any personal use must be taken into account.

Substantiation Requirements

The new law repeals the requirement that contemporaneous records be kept for tax purposes of business use of automobile, computers and other property susceptible to personal use. For 1985, the law reverts to the record-keeping requirements in existence before the Deficit Reduction Act of 1984 was enacted. For taxable years beginning after 1985, taxpayers will need to keep "adequate" records or "sufficient" evidence corroborating their own statements of business use of such property. Daily logs of business use will not be required.

The big question is: What constitutes "adequate" records of "sufficient corroborating evidence"? The regulations require that "adequate" records show (1) the amount of each expense, (2) the amount of business use (time used for computers), (3) the date of the expenditure or use, and (4) the business purpose. These records do not have to be contemporaneous. However, the nearer the records are made to the actual time of the expense or use, the greater evidential weight they will have. The regulations state that records made on a weekly basis will be considered sufficient.

The records can take any organized form such as account books, logs, diaries, expense statements, trip sheets, and credit card receipts. It is not necessary to duplicate in a log or other record information that is contained on a receipt if the receipt and the log or other record complement each other in an orderly manner.

The regulations specifically mention that the use of a computer program that records all computer usage, by time and type, will constitute an "adequate record."

If the use of the computer is generally the same throughout the entire year, it may not be necessary to keep records for the whole year. In appropriate situations it will be possible to keep records of a sample period and apply the results to the entire year. For example, if a taxpayer keeps records for the first three months of the year indicating that the business use of the computer is seventy-five percent, and other evidence indicates that the level of business usage continued at the same rate throughout the year, then the records kept during the first three months of the year will be sufficient to substantiate the entire year's business use.

In the absence of written records, a taxpayer will be permitted to substantiate business deductions using other evidence. However, anyone relying on this provision probably does so at his or her peril; it probably will be very difficult to convince the IRS without some written documentation. Congress agreed that oral evidence may be used to support a business deduction, but that such testimony will have the least probative value of any evidence.

On tax returns, anyone taking a deduction for a computer with both business and personal usage must provide the following information:

- The date the computer was placed in use.
- The percentage of business use.
- Whether evidence is available to support the percentage of business use claimed on the return.
- Whether the evidence is written.

If the evidence is not written, the answer of "no" to number four above red-flags the return for the IRS, and an audit is almost certain. The IRS is expected to take a hard-line stance in cases where there is no written evidence. So far, the courts have agreed with the IRS. The Tax Court, in the *Allman* case, disallowed a deduction to the taxpayer because he could not establish a "direct and proximate relationship between his use of his home computer and skills required in his employment." In the *Shaller* case, the Tax Court disallowed a deduction for computer usage by an author who was promoting his book because he "made no attempt to allocate between business and nonbusiness use."

Conclusion

With the rules and deduction limits applied to personal computers, it is almost impossible for an employee to deduct his microcomputer. It is difficult to get favorable deductions for one's computer in a trade or business unless exacting records are kept that prove over fifty percent business use. Finally, the possibility of future business usage never falls to fifty percent or less of the total usage.

VAXEN

BITNET on the VAXcluster

By Ron Brashear, VAX System Manager (Ron@NTSUVAXA)

BITNET has arrived for the NTSU VAXcluster via JNET, a RSCS emulator sold by Joiner and Associates. Some of the advantages of using the VAXcluster for BITNET communication tasks include:

- The ease with which the JNET commands may be used for BITNET communication (i.e. user-friendly).
- Each VAX is recognized as an RSCS node – thus allowing two-way shows of users and other commands to be issued on the Cluster pertaining to remote BITNET nodes and vice-versa.
- The JNET software operates rapidly and efficiently with very little system overhead.
- Plenty of on-line help is available on the Cluster (SEND, RECEIVE commands).
- BITNET is accessible through VMSMAIL.

RSCS emulation also has advantages on the NTSU campus. Printers may now be accessed directly from the VAXcluster, bypassing OS BATCH and allowing features such as 132 columns, easy specification of record size, print trains, etc. Moreover, all VAX communications software using the HASP communication protocol can quickly be replaced by the more efficient JNET software.

The VAXcluster is scheduled to become a full member of the BITNET network in December. Until then, two-way communications using BITNET (JNET) is restricted to NTSU nodes. The node names for the two VAXcluster nodes are NTSUVAXA and NTSUVAXB. Documentation and quick reference cards are available from the Computing Center upon request.

What's New on the VAX

By Lee Harper, VAX Operator (Lee@NTSUVAXB)

• New SEND command

An easier-to-use and enhanced SEND command has been installed. It will allow message sending using the username instead of the terminal. It also allows sending messages to another VAX Cluster node, so if you are on VAXA and want to send to user IE59 on VAXB, type:

```
SEND VAXB::IE59 "Hello to you."
    – or –
SEND IE59@NTSUVAXB "Howdy, are you busy?"
    – or –
SEND VAXB::IE59
```

This last way initiates a session which will prompt you for multiple message lines until you press ⟨CTRL⟩⟨Z⟩. This, in essence, makes the VAX TALK utility obsolete.

Type **HELP SEND** while on the VAX for more information. SEND is one of the functions of the new communications software JNET, which allows us the ability to hook into the BITNET network. In the near future, it will allow sending of messages to users on other computer systems all over the world (see related article, above).

• What happens with HASP+ ?

The VAX HASP+ communications subsystem now runs only on node VAXA. Although you can still submit files to the NAS mainframe system from node VAXB, it may take a little longer from node VAXB, since it must run TEL via DECnet. All this is in preparation for the coming of JNET, which is able to communicate with RSCS, and is more flexible than HASP+.

• PARALLEL, a new utility

A new utility named PARALLEL has been added to the UTILITY menu. It will append two files side by side. To run it, just type **UTILITY**, then use the arrow keys to select PARALLEL.

Using Logicals Within VMS MAIL

By James Shoffit, VAX operator (James@NTSUVAXA)

Have you ever been trying to send mail to one of your friends, and had trouble because you could not remember the person's UserID ? Well, there is a way to set up a "logical"so that you do not have to remember the person's UserID any more. To set up a logical for a person, you simply type :
$ DEFINE *(person's name) (UserID)*

For instance, if you frequently send mail to your good friend, Tom, but have trouble remembering that his UserID is IA59, you can type **$ DEFINE TOM IA59**. From then on (during the same session) if you wish to send mail to Tom, just type TOM when Mail asks to whom the message should be sent. For example:

```
$ MAIL
MAIL> SEND
To:   TOM
```

The Define statement only defines a logical for your current process. That means when you log out, this definition goes away. You must re-Define the logical (or logicals) every time you log in. An easy way to do this is to edit your LOGIN.COM and add the line **$ DEFINE TOM IA59**

For more help on VMS logicals, type **HELP DEFINE** or **HELP ASSIGN** while on the VAX.

VAXcluster Addresses

Trying to access the VAXcluster can be very frustrating at times because of the heavy demand for time on the Cluster. The CALL command has a parameter that is a Hexadecimal address. The beginning address for the Cluster is DEC. Although this works out nicely since the Cluster was manufactured by Digital Equipment Corporation (DEC) the address is, nevertheless, a Hexadecimal number. The address for the Cluster run from DEC to E04. Any Hex number within that range will be a valid address and get you to the Cluster. If when you type CALL DEC the response is: UNABLE TO OPEN SESSION - REMOTE PORTS BUSY, try Calling a higher address in the range. i.e. CALL DF3. Most of the time you will be able to find an open port; however there will be times when all of the ports are actually busy and you can't get on. In these cases... be patient.

The Following is a list of the addresses currently available for accessing the Cluster:

DEC	DF0	E00
DED	DF1	E01
DEE	DF2	E02
DEF	DF3	E03
	DF5	
	DF6	
	DF7	
	DF8	
	DF9	

More Ethernet Ports for the VAXcluster

By Ron Brashear, VAX System Manager (Ron@NTSUVAXB)

A total of 32 additional ethernet ports should be available for the VAXcluster by the start of the Spring semester. Four 8-port DECserver 100's should arrive by Christmas break and, with any luck, should be installed and operational by the beginning of the Spring Semester. These servers will be placed in the 5th floor GAB lab area replacing four 8-port LAN muxes. They will be connected to the VAX-preference terminals thus allowing direct (non-LAN) access to the VAXcluster. Several VAX ports will be made available as LAN output ports for those logged in on DECserver ports who desire LAN access. This acquisition brings the total of VAX ports (available to normal users) to 96 (64 LAN, 32 direct).

OPERATIONS

Disk Backup Schedules

Backup Schedule for OS/MVS

OS/MVS disk packs (academic and administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 a.m., and Sunday from Midnight to 3 a.m. A backup of all the operating systems on the NAS CPU and their contents is done once every two weeks at some low activity period over a weekend.

MUSIC/SP Backup Hours

A message will be sent to all users signed on to MUSIC/SP approximately 10 minutes before backups are begun. It will be in the form * * MUSIC SHUT DOWN AT xxxx AM - SCHEDULED BACKUP **. To find out the backup hours while signed on to MUSIC/SP, enter HELP HOURS. The following backup schedule is currently in effect:

Tuesday	3 a.m. (for about 3 hours)	Weekly backup
Wednesday - Saturday	4 a.m. (for about 2 hours)	Daily backup
Saturday	Midnight (for about 2 hours)	Daily backup

PHOENIX Backup Schedule

PHOENIX is backed up weekly on Sunday night. The backup begins at midnight and lasts for approximately 30 minutes.

VAX Backup Schedule

Incremental backups of both VAX systems are performed Monday through Thursday at 4 p.m. Users do not have to log-off, but any files that are open at the time of the backup will NOT be backed up.

Full backups of both systems are done every Friday beginning at 8 a.m. These generally will take all day to complete. Again, users do not have to log-off, but any files that are open will not be backed up.

A "Stand Alone" backup of the system disk is done the third Tuesday of every month, in the afternoon, just before preventive maintenance. This procedure makes a copy of the system disk that can be used to restore its contents if the disk is completely destroyed. The system will be shut down; watch the system log-on message for specific times and dates.

NOTE: No backups are taken on the weekends. Requests for restoration of files should be made via MAIL to the username OPERATOR. Your file can only be restored if it existed before the last backup was done.

NAS/8083 Dual Processor Performance Statistics for October

CPU	SYSTEM	Scheduled Operating Hours	Planned Maint. Hours	Planned Production Hours	Unplanned Maint. Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	744	0.05	743.95	0.16	743.79	99.9%
ACAD	MUSIC/SP	744	37.33	706.67	3.93	702.74	99.4%
ACAD	MVS/JES2	744	0.10	743.90	1.79	742.11	99.8%
ACAD	COMPLETA	744	0.12	743.88	2.53	741.35	99.7%
ADMN	MVS/JES2	744	32.47	711.53	3.52	708.01	99.5%
ADMN	COMPLETA	287	0.00	287.00	8.30	278.70	97.1%
ADMN	ADABASA	744	45.92	698.08	6.12	691.96	99.1%

System Uptime=(Production Hrs. Achieved)/(Planned Production Hrs.)
Production Hrs. Achieved = (Planned Production)-(Unplanned Maint.)
Scheduled Operating Hrs. = (Planned Maint.) + (Planned Production)

MUSIC/SP Planned Maintenance Hours include 21.76 hours for system backup and 15.40 hours for VM/SP3 system backup.

ADABASA'S Planned Maintenance Hours include 11.46 Hrs. for system backup.

The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime. The ADMN CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for scheduled operation. Lost productivity hours were contributed to by the following key causes:

ACAD CPU:

Miscellaneous

1. Undetermined causes for system restarts	0.32 HOURS
2. MUSIC/SP System Weekly Backup failure	2.50
3. MUSIC/SP System in Program Loops.	1.10
4. JES2 Catastrophic Error.	1.15
5. VM/SP3 System Tuning/Improvements.	0.48
6. Reset CPU Clock to Standard Time.	0.17
TOTAL	5.72 HOURS
GRAND TOTAL FOR ACAD	5.72 HOURS

ADMN CPU:

Terminal Control System (COMTEN)

1. Corrective maintenance on the 3690 TCU.	0.42 HOURS

Miscellaneous

1. Undetermined Causes for System Restarts.	1.34 HOURS
2. MVS/JES2 System Upgrade (Version 1.3.4).	34.58
3. MVS/JES2 System Tuning/Improvements.	2.01
4. ADABASA System Tuning/Improvements.	1.43
5. COMPLETA shut down to process single jobs	4.05
6. COMPLETA System Tuning/Improvements.	1.50
7. Power Failure in ISB caused BYMPX 0 to fail.	0.75
8. Reset CPU Clock to Standard Time.	0.28
9. COMPLETA System Failures.	0.37
TOTAL	46.31 HOURS
GRAND TOTAL FOR ADMN	46.73 HOURS

NAS/8083 Dual Processor Performance Statistics for November

CPU	SYSTEM	Scheduled Operating Hours	Planned Maint. Hours	Planned Production Hours	Unplanned Maint. Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	720	0.00	720.00	1.14	718.86	99.8%
ACAD	MUSIC/SP	720	32.80	687.20	3.36	683.84	99.5%
ACAD	MVS/JES2	720	0.00	720.00	3.49	716.51	99.5%
ACAD	COMPLETA	720	0.00	720.00	5.82	714.18	99.2%
ADMN	MVS/JES2	720	0.00	720.00	20.07	699.93	97.2%
ADMN	COMPLETA	218	0.00	218.00	7.57	210.43	96.5%
ADMN	ADABASA	720	15.27	704.73	23.04	681.69	96.7%

System Uptime=(Production Hrs. Achieved)/(Planned Production Hrs.)
Production Hrs. Achieved = (Planned Production)-(Unplanned Maint.)
Scheduled Operating Hrs. = (Planned Maint.) + (Planned Production)
MUSIC/SP Planned Maintenance Hours include 21.62 hours for system backup and 11.18 hours for VM/SP3 system backup.
ADABASA'S Planned Maintenance Hours include 15.27 Hrs. for system backup.

The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime. The ADMN CPU achieved 97.6% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 99.5% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for scheduled operation. Lost productivity hours were contributed to by the following key causes:

ACAD CPU:

Miscellaneous

1. Undetermined causes for systems restarts.	3.74 HOURS
2. MUSIC/SP System Weekly Backup Failure.	1.93
3. Air Conditioning Failure in GAB 560.	0.87
4. COMPLETA System Tuning/Improvements.	1.53
5. MVS/JES2 System Tuning/Improvements.	0.77
TOTAL	8.84 HOURS
GRAND TOTAL FOR ACAD	8.84 HOURS

ADMN CPU:

CPU, Tape, and Disk Subsystems (NAS)

1. I/O Processor Failures in the CPU.	19.09 HOURS

Miscellaneous

1. Undetermined causes for systems restarts.	1.44 HOURS
2. MVS/JES2 System Tuning/Improvements.	1.63
3. COMPLETA shut down to process single jobs	1.05
4. COMPLETA System Tuning/Improvements.	0.30
5. Air conditioning failure in GAB 560.	0.88
TOTAL	5.85 HOURS
GRAND TOTAL	24.94 HOURS

TECHNICAL SUPPORT

ACADemic (NAS) Program Hit Parade *

The following programs were used the most frequently on the NAS CPU during the month of November.

NOVEMBER TOP TEN PROGRAMS IN TERMS OF FREQUENCY OF RUNS

Program	Description	Number of Runs	Percent of Total
1. OTHER	Programs not Categorized	23841	19.7
2. IEWL	Linkage Editor	19551	16.1
3. PGM=*.DD	Compiled Program	18861	15.6
4. IKFCBL00	VS COBOL Compiler	16540	13.6
5. IEBGENER	IBM Utility	16016	13.2
6. SCRIPT	Waterloo/SCRIPT	6071	5.0
7. SASLPA	SAS	5900	4.9
8. PTPCH	Dataset Lister	4721	3.9
9. IEBPTPCH	IBM List Utilitly	4393	3.6
10. IEFBR14	IBM Null Utility	2856	2.4

NOVEMBER TOP TEN PROGRAMS IN TERMS OF CPU SECONDS USED

Program	Description	CPU Seconds	Percent of Total
1. SASLPA	SAS	43311	30.1
2. OTHER	Programs not Categorized	35327	24.6
3. IKFCBL00	VS COBOL Compiler	18022	12.5
4. PGM=*.DD	Compiled Program	17573	12.2
5. SCRIPT	Waterloo/SCRIPT	11455	8.0
6. PTPCH	Dataset Lister	9581	6.7
7. IEWL	Linkage Editor	3363	2.3
8. IEBGENER	IBM Utilitly	2435	1.7
9. IEBPTPCH	IBM List Utilitly	863	0.6
10. VAXPRINT	VAX/OS Print Utility	709	0.5

** ACAD is the official designation of the part of the NAS/8083 CPU that is dedicated to faculty and student use. The portion of the computer reserved for University administrative purposes is termed ADMN.*

Registration Form for Computing Center Short Courses

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling 565-2324.

NAME:_____ PHONE:_____

DEPT:_____ CLASSIFICATION:_____

I wish to attend:

- Introduction to MUSIC/SP:
  - ___ Monday, February 2 : 1–3 p.m. (ISB 110)
  - ___ Tuesday, February 3 : 6–8 p.m. (ISB 110)
  - ___ Saturday, February 7 : 9–11 a.m. (ISB 110)
  - ___ Wednesday, March 25 : 6–8 p.m. (ISB 110)
  - ___ Thursday, March 26 : 1–3 p.m. (ISB 110)
  - ___ Saturday, March 28 : 9–11 a.m. (ISB 110)
- System Files in SAS & SPSS-X:
  - ___ Wednesday, February 4 : 3–5 p.m. (Graphics Lab, ISB)
  - ___ Monday, March 23 : 9–11 a.m. (Graphics Lab, ISB)
- VAX Utilities & Commands:
  - ___ Tuesday, February 3 : 9 a.m.– Noon (ISB 110)
  - ___ Monday, March 23 : 6–9 p.m. (ISB 110)
- Introduction to SAS:
  - ___ Wednesday, February 4 : 2–4 p.m. (ISB 110)
  - ___ Monday, March 23 : 1–3 p.m. (ISB 110)
- Using MUSIC/SP Utilities:
  - ___ Thursday, February 5 : 3–5 p.m. (ISB 110)
  - ___ Saturday, March 28 : 9–11 a.m. (ISB 110)
- Introduction to SPSS-X:
  - ___ Tuesday, February 3 : 1–3 p.m. (ISB 110)
  - ___ Wednesday, March 25 : 9–11 a.m. (ISB 110)
- Introduction to IBM JCL:
  - ___ Thursday, February 5 : 3–5 p.m. (Graphics Lab, ISB)
- Introduction to CMS:
  - ___ Friday, February 6 : 1–3 p.m. (ISB 110)
  - ___ Friday, March 27 : 1–3 p.m. (ISB 110)
- Introduction to SAS/GRAPH:
  - ___ Monday, February 9 : 1–3 p.m. (Graphics Lab, ISB)
  - ___ Monday, March 30 : 1–3 p.m. (Graphics Lab, ISB)

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